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TITLE : FORMATION OF SOLID PARTICLE MEMBRANE

ABSTRACT : PURPOSE: To improve the regularity of solid particle arrangement by a method wherein the dispersing liquid of solid particles is brought into contact with a liquid immiscible with this dispersing medium to form a two phase liquid and the solid particles from the dispersing liquid are adsorbed on a liquid-to-liquid interface to form a single particle layer.

CONSTITUTION: The solid particles of silver halide, inorg. pigment, etc., are dispersed in a liquid using a dispersing agent such as gelatin. This dispersing medium is then brought into contact with the other liquid immiscible therewith to form a two phase liquid. When this liquid is allowed to stand, the solid particles are adsorbed on the liquid-to-liquid interface to form a single particle layer. At this time, if the interfacial tension between these two liquid phases is made smaller, the aggregation rate of the solid particles becomes smaller. The variation coefficient σ/Y' for the size distribution of the solid particles (σ is the standard deviation of the particle size and Y' is an average particle size) is set at not more than 20%, thereby enhancing the regularity of solid particle arrangement. The single particle layer thus formed is transferred onto a supporting body such as glass, ceramics and plastics.

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